APPENDIX B
STATEMENT OF WORK
ANOMALY AVOIDANCE ACTIVITIES
[PROJECT NAME]
[PROJECT LOCATION (CITY, STATE)]

1.0 GENERAL

1.1 The work required under this Statement of Work (SOW) involves avoidance of potential unexploded ordnance (UXO) contamination during performance of Hazardous, Toxic, and Radioactive Waste (HTRW) investigation and remedial design activities on property currently or previously owned, leased, or otherwise possessed by the United States Department of Defense. This SOW only pertains to anomaly avoidance activities. If an anomaly is detected it must be avoided, including relocation of proposed HTRW activities. If the intrusive investigation of anomalies is deemed necessary, the SOW for UXO support during construction activities should be used.

1.2 The Contractor, operating as an independent contractor and not as an agent of the Government, shall provide all labor, materials, and equipment necessary to perform anomaly avoidance support for HTRW investigation and remedial design activities in accordance with EP 75-1-2, UXO Support During HTRW and Construction Activities. The Contractor shall furnish the required UXO qualified personnel, equipment, instruments, and transportation, as necessary, to accomplish the required services and furnish to the government reports and other data, together with supporting material developed while providing UXO support services. During the implementation of anomaly avoidance procedures, the Contractor shall provide adequate professional supervision and quality control to ensure the quality, safety, and completeness of the work.

2.0 BACKGROUND

2.1 UXO is a safety hazard that may constitute an imminent and substantial danger to the personnel performing HTRW investigation and remedial design activities, other nearby site personnel, and the public in general. UXO contamination must be considered a possibility on all formerly used defense sites (FUDS) and active military installations. The surface danger zone of a range (active or inactive), the target area, impact area, ricochet area, and the secondary danger zones may be contaminated with UXO. UXO may be found on the surface and/or subsurface. The varying types of ammunition, angle of fire, and soil types preclude the accurate estimation of the depth of any subsurface UXO.

2.2 Location of Work.

[Insert general and specific descriptions of project location]

2.3 Site History.

[Insert history of site utilization with special emphasis on types of ordnance items that may be encountered]

2.4 Non-Stockpile Chemical Warfare Materiel. During a comprehensive review of archival records, [no evidence] [evidence] of the potential existence of chemical warfare materiel (CWM) or CWM byproducts on [Site Location] was discovered. In the event suspect CWM is encountered, all work will immediately cease and project personnel will be evacuated along cleared paths upwind from the discovery. A team consisting of a minimum of two personnel shall immediately secure the area to prevent unauthorized access. Reporting procedures will be in accordance with paragraph 6.4.

3.0 REGULATORY AND TECHNICAL REQUIREMENTS

3.1 UXO support activities shall be conducted in full compliance with United States Army Corps of Engineers (USACE), Department of Army (DA), and Department of Defense (DOD) requirements regarding personnel, equipment, and procedures. (All UXO operations shall emphasize anomaly avoidance whenever possible, and be performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] and the National Contingency Plan [NCP]. Therefore, the administrative requirements of Federal, state, or local permits are not required for implementation of any UXO procedures, including on-site destruction of UXO, if required, but the substantive permit requirements must be fulfilled.)

3.2 The provisions of 29 CFR 1910.120 shall apply to all UXO-related actions taken at this site. In addition, UXO personnel involved in performing UXO tasks will be limited to a 10-hour workday and a 40-hour workweek. Two consecutive workweeks shall be separated by a minimum of 48 hours of rest.

4.0 SPECIFIC REQUIREMENTS

4.1 The work elements to be performed under this [contract] [delivery order] are listed below.

[Use only those paragraphs listed below that are applicable to the specific task]

4.2 Site Visit/Records Review. The Contractor shall conduct a site visit, review pertinent records, and interview personnel knowledgeable of site conditions to collect sufficient information to develop a Work Plan and a Site Safety and Health Plan (SSHP) for the planned activities. This task is not intended to be an expanded archival search where new information is located or developed. Prior to conducting a site visit, an Abbreviated Site Safety and Health Plan (ASSHP) must be prepared and submitted to the Contracting Officer for review and approval. Site visit personnel must be accompanied by a qualified technician UXO Technician II or higher in areas potentially contaminated with UXO. The Contractor shall ensure that the site visit is fully coordinated and that all members of the site visit team comply with the accepted ASSHP.

4.3 Work Plan/Site Safety and Health Plan. The Contractor may not commence HTRW investigation or remedial design activities on sites with known or potential UXO until a site-specific Work Plan describing proposed UXO support procedures and the equipment that will be used is prepared and accepted by the Contracting Officer. The Work Plan shall also include an SSHP specifically addressing UXO considerations. The Work Plan and SSHP shall promote safe and efficient operations while limiting potential exposure to a minimum number of personnel for a minimum time and to the minimum amount of UXO. The Work Plan shall require a team made up of a minimum of two personnel, one of whom must be a qualified UXO Technician II or above, to be on-site during all UXO support activities. HTRW investigation and remedial design activities shall only be accomplished using anomaly avoidance procedures defined in the accepted Work Plan.

4.4 Escort. UXO qualified personnel shall provide safety support for HTRW investigation personnel traversing an active or inactive range (including target areas, impact areas, ricochet areas, or any secondary danger zones) with a probability of UXO contamination. The UXO qualified personnel shall review any archival information available regarding the area to be covered and determine, if possible, the level of risk associated with traversing the area and any specific safety considerations. The UXO qualified personnel shall meet the party to be escorted, ascertain their specific requirements and objectives, and conduct a general work and safety briefing prior to commencing a transit of an area with potential UXO contamination.

4.4.1 The UXO qualified personnel shall precede the escorted personnel and visually search the surface of the proposed pathway for items of concern. The UXO qualified personnel shall communicate visual observations to escorted personnel and avoid contact with any discovered UXO or UXO-related items by leading the group around them. The UXO qualified personnel shall place flagging adjacent to any discovered UXO for subsequent visual reference.

4.5 Access Survey. An access survey must precede any type of HTRW-related investigation and remedial design activities or ingress/egress within an area identified or suspected of being contaminated with UXO. The team shall locate an access route and investigation site that is free of anomalies using an appropriate geophysical detection instrument. The access route shall be at

least twice as wide as the widest vehicle that will use the route. If anomalies or surface UXO are encountered, they will be marked with flagging and the access route or investigation site will be diverted/relocated to avoid contact. The boundary of each access route and investigation site shall be marked using survey flagging and pin flags.

4.5.1 The team shall establish a system of flagging colors that will distinguish anomalies, surface UXO, and route boundaries from each other as well as from any utility markings at the site. No personnel will be allowed outside of the surveyed areas.

4.5.2 If surface UXO is encountered, the team will assess the condition of the UXO to determine if disposal action is required. UXO disposition will follow the procedures in paragraph 4.11.

4.6 Surface Soil Sampling. Surface soil samples are normally collected at depths from zero to six inches below ground surface. The team must conduct an access survey of the routes to and from the proposed investigation site as well as an area around the investigation site, as described in paragraph 4.5. The team must visually survey the surface of each proposed surface soil sampling site for any indication of UXO or UXO-related contamination. In addition, the team must conduct a survey of the proposed sample locations using geophysical instrumentation capable of detecting the smallest known or anticipated UXO to a depth of one foot. If anomalies are detected at a proposed sampling location or too many anomalies are detected in a general area of interest, the HTRW personnel will select an alternate location for collection of surface soil samples. Any anomalies detected will be prominently marked with survey flagging or pin flags for avoidance during HTRW sampling activities.

4.7 Passive Soil Gas Sampling. Passive soil gas sampling typically involves excavation of holes to a depth of less than five feet and the installation and subsequent removal of sampling canisters. The team must conduct an access survey of the routes to and from the proposed investigation site as well as an area around the investigation site as described in paragraph 4.5. The team must visually survey the surface of the proposed passive soil gas sampling sites for any indication of UXO or UXO-related contamination. In addition, the team must conduct a survey of the proposed sample locations using geophysical instrumentation capable of detecting the smallest known or anticipated UXO to the specified emplacement depth for the sampling canister.

4.7.1 If the emplacement depth is greater than the geophysical instrumentation detection capabilities, then the team must incrementally complete the geophysical survey every two feet while excavating for emplacement of the sampling canisters. Non-essential project personnel should withdraw to a distance of not less than the fragmentation distance of the most probable munition (MPM) established for the site during excavation for the incremental geophysical survey.

4.7.2 If anomalies are detected at a proposed sampling location or too many anomalies are detected in a general area of interest, the HTRW personnel will select an alternate location for collection of passive soil gas samples. If an anomaly is detected during an incremental geophysical survey, the hole will be backfilled in accordance with site-specific procedures. Any anomalies detected will be prominently marked with survey flagging or pin flags for avoidance.

4.7.3 Unless a path is clearly marked, the HTRW sampling personnel must be escorted by team personnel when they subsequently return to each soil gas sampling site to retrieve the sampling canisters.

4.8 Active Soil Gas Sampling and Direct Push Technology. Active soil gas sampling typically involves manual or mechanical penetration at the desired location followed by withdrawal and collection of a soil gas sample. Direct push technology (DPT) is a common method for mechanical penetration during active soil gas sampling. The team must conduct an access survey of the routes to and from the proposed investigation site as well as an area around the investigation site, as described in paragraph 4.5.

4.8.1 Active soil gas sampling and DPT installations will follow the same anomaly avoidance procedures as outlined in paragraph 4.9 for soil boring and monitoring well installations. The actual sampling will occur through the pilot hole or a boring located within a two-foot radius of the pilot hole installed by the team. If the pilot hole cannot be used to obtain a representative soil gas sample, it must be backfilled in accordance with site-specific procedures prior to installation and sampling of the soil gas sampling point. The backfilling of the pilot hole should be performed to prevent the soil gas sample from being diluted by atmospheric air that may be drawn in through the pilot hole. Following collection of the soil gas sample, the sampling location must be backfilled in accordance with site-specific procedures.

4.9 Subsurface Soil Sampling and Monitoring Well Installations. Subsurface soil sampling is considered to be the collection of samples below a nominal depth of approximately six inches from a split-spoon, Shelby tube, or bucket auger soil sampler using drilling techniques. Drilling techniques are also used to install groundwater monitoring wells for HTRW investigative sampling. The team must conduct an access survey of the routes to and from the proposed investigation site as well as an area around the investigation site, as described in paragraph 4.5.

4.9.1 The team must complete a subsurface geophysical survey of the proposed drill hole location(s). If the subsurface sampling or well installation depth is greater than the geophysical instrumentation detection capabilities, the team must incrementally complete the geophysical survey following the procedures established in EP 75-1-2. If an anomaly is detected at a proposed sampling location, the hole must be backfilled in accordance with site-specific procedures and the HTRW sampling team must select a new sampling location. Any anomalies detected will be prominently marked with survey flagging or pin flags for avoidance.

4.10 Test Pit and Trench Excavations. Test pits and trench excavations are used to identify and characterize large subsurface HTRW areas of concern. The team must conduct an access survey of the routes to and from the proposed investigation site as well as an area around the investigation site as described in paragraph 4.5.

4.10.1 The team must complete a subsurface geophysical survey of the proposed excavation locations. If the proposed excavation depth is greater than the geophysical instrumentation detection capabilities, the team must incrementally complete the geophysical survey following procedures established in EP 75-1-2. If an anomaly is detected at a proposed test pit/trench excavation location, the HTRW sampling personnel must select an alternate test pit/trench location or configuration. If UXO is uncovered during an excavation, all operations will cease. The team will assess the condition of the UXO to determine if disposal action is required. If disposition is required, the procedures in paragraph 4.11 will be followed. The site will be safeguarded pending arrival of the Explosives Ordnance Disposal (EOD) team. Once UXO has been encountered in an excavation, no further excavation is allowed at that location until EOD has removed the UXO item. Once the item is removed, excavation may continue. The After Action Report will indicate that UXO was encountered and summarize resulting activities.

4.11 UXO/OE Disposition. Since the purpose of UXO support during HTRW activities is anomaly avoidance, the team is not tasked to perform UXO/OE disposition. UXO/OE disposition will not be covered in the planning documents for the project, and therefore the team is not capable or equipped to perform UXO/OE disposition. In the event that ordnance is encountered that cannot be avoided or, based on its fuzing or current condition, presents an imminent hazard requiring immediate attention, the team will notify the local Point of Contact (POC) designated in the Work Plan. The team will not destroy any of the UXO encountered. The local POC will notify the appropriate authority of the UXO discovery and the team will safeguard the site pending arrival of the appropriate authority.

4.11.1 On active installations, UXO disposition requests will normally require reporting to the Range Control Officer, Facility Engineer, Post Headquarters or POC designated in the Work Plan.

4.11.2 On FUDS, the local POC will facilitate EOD response. If the local POC designated in the Work Plan is not the local law enforcement agency, the local POC will inform the local law enforcement agency of the discovery. The local POC will also contact the U.S. Army Engineering and Support Center, Huntsville (USAESCH) Safety Manager.

4.12 Quality Control. A separate UXO Quality Control Specialist is not required on-site full-time for UXO support activities. However, the UXO support contractor must perform quality control reviews of all field activities.

5.0 SUBMITTAL REQUIREMENTS

5.1 Format and Content. All plans and reports shall be typewritten on standard size white paper. A front cover sheet shall be provided which includes the contractor's name and address, contract number, [delivery order number], name of the project, date of the plan, and title of the plan.

5.1.1 Chapters shall be numbered sequentially. Within each chapter, a decimal paragraphing system shall be used with each paragraph numbered sequentially, starting with the specific chapter number. Within each chapter any figures, tables, and charts shall be numbered sequentially starting with the chapter number. Appendices shall be lettered alphabetically. Within each appendix, each page shall be numbered sequentially starting with the appendix letter. Drawings larger than 8.5 inches by 11 inches shall be folded to this size.

5.1.2 Every page of the plan shall be numbered sequentially starting with the specific chapter number and contain a footer containing the plan date, [and contract number.] [contract number, and delivery order number]. When revisions are required, a revision date and amendment number shall be included in the footer.

5.2 Schedule. The Contractor shall prepare and submit a project schedule of planned activities, including plan preparation, submittal, and review; field operations; and reporting. The schedule should identify all critical-path milestones.

5.3 Addressees and Quantities. The following addresses and number of required copies shall be used for all submittals:

ADDRESSEE	QUANTITY
[To Be Completed]	[xx]

6.0 REPORTS

6.1 Minutes of Meetings. The Contractor shall prepare minutes of all meetings attended and submit them to the Contracting Officer within seven calendar days after the meeting.

6.2 Correspondence. The Contractor shall keep a record of each phone conversation and written correspondence affecting decisions relating to the performance of this [contract] [delivery order]. A summary of the phone conversations and written correspondence shall be submitted monthly to the Contracting Officer.

6.3 After Action Report. Upon completion of the UXO activities, the Contractor must prepare an After Action Report describing the activities completed, significant findings, and

lessons learned that may assist development of future project plans. The After Action Report shall be submitted to the district Project Manager (PM) with a copy forwarded to the OE MCX.

6.4 Report of Suspect CWM. If suspect CWM is encountered, the following procedures will be followed. All work will immediately cease. Project personnel will withdraw along cleared paths upwind from the discovery. A team consisting of a minimum of two personnel will secure the area to prevent unauthorized access. Personnel should position themselves as far upwind as possible while still maintaining security of the area.

6.4.1 On FUDS project sites, the team will notify the local POC designated in the Work Plan. The local POC will facilitate EOD response and two personnel will secure the site until EOD's arrival. If the local POC designated in the Work Plan is not the local law enforcement agency, the local POC will inform the local law enforcement agency of the discovery. The EOD unit will notify the Technical Escort Unit (TEU) and secure the area until TEU's arrival. After notifying the local law enforcement agencies, the local POC will notify the USAESCH Safety Office to inform them of the actions taken.

6.4.2 On active installations, the team will normally notify the Range Control Officer, Facility Engineer, Post Headquarters or POC designated in the Work Plan.

6.4.3 The team will prepare a Report of Suspect CWM for the designated POC.

6.5 Mishap Reporting. All mishaps associated with execution of project activities shall be investigated and analyzed. Information reflected on the report forms provides the basis to investigate the accident, analyze the cause, and identify what corrective actions may be implemented to prevent similar occurrences.

6.5.1 All mishaps will be reported in accordance with USACE Supplement to AR 385-40, USAESCH Safety Concepts and Basic Considerations for UXO Operations, and EM 385-1-1, Safety and Health Requirements Manual. Any mishap will be reported on ENG FORM 3394, Accident Investigation Report.

6.5.2 On FUDS, the contractor's UXO Safety Officer is responsible for mishap reporting. For contracts under the supervision of the district, mishaps will be reported to the district safety office. An information copy of the accident report will be forwarded to the OE MCX. USACE district personnel will report through Command channels to the Headquarters, USACE (HQUSACE) Safety and Occupational Health Office.

6.5.3 On active installations, the installation safety officer is responsible for reporting any explosives mishaps.

6.5.4 Incidents involving CWM will be reported in accordance with USACE Supplement to AR 385-40. A site-specific POC will be identified and documented in accordance with the reporting requirements in paragraph 6.5.1.

6.6 Investigations. The US Army Safety Center (USASC) maintains the prerogative to investigate Class A or Class B explosive mishaps (as defined in AR 385-40) on active installations. If USASC chooses to investigate, it is the lead agency. If USASC chooses not to investigate, the district is the lead agency.

7.0 PUBLIC AFFAIRS

7.1 The Contractor shall not publicly disclose any data generated or reviewed under this [contract] [delivery order]. The contractor shall refer all requests for information concerning site conditions to the local USACE district Public Affairs Office, with a copy to the OE MCX. Reports and data generated under this [contract] [delivery order] are the property of the DOD and distribution to any other source by the Contractor is prohibited unless authorized by the Contracting Officer.